

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: JUL 26 1979

SUBJECT: ~~The City of Indianapolis Unauthorised Landfilling of Municipal Sludge~~FROM: Charles H. Sutfin, Director
Water DivisionTO: Sandra F. Gardebring, Director
Enforcement DivisionDavid Kee, Director
Air and Hazardous Materials DivisionWilliam H. Sanders III, Director
Surveillance and Analysis Division

EPA Region 5 Records Ctr.



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The purpose of this memo is to provide background on the current status of the subject landfill, and to seek your assistance and input in developing the approaches necessary to deal effectively with this complex situation.

Background

In 1974, Indianapolis prepared a facilities plan as part of the initial phase of its advanced wastewater treatment project to increase capacity and upgrade the effluent quality of the City's wastewater treatment plants. This same facilities plan determined that the most cost-effective location for the new facilities was an area at the existing Belmont plant on which ten existing sludge holding lagoons were located.

In order for new plant site preparation to begin, the sludge in the existing lagoons would need to be removed. Various facilities planning activities developed a number of on-site and off-site sludge disposal alternatives. The disposal plan selected was one of the off-site alternatives consisting of land application of the lagoon sludge on agricultural lands in adjacent Boone County, Indiana.

In April, 1977, Water Division issued a Finding of No Significant Impact (FNSI) on the Indianapolis land application program. The FNSI is prepared in accordance with the procedures for the preparation of environmental impact statements. The FNSI review process indicated that significant environmental impacts which would warrant preparation of an EIS would not result from the City's proposed action. The land application program was based on extensive sludge and soils testing, so that safe sludge loading limits could be established. Sludge analysis data indicated relatively high values for cadmium and polychlorinated biphenyl

concentrations (PCB concentrations averaged 26 ppm but were found as high as 60 ppm); however, input from headquarters staff and university agronomists indicated that cadmium was the limiting constituent. Therefore, sludge application rates were not to exceed one pound of cadmium per acre. This application rate resulted in initial soil concentration (after plowing and disking) of less than 4 ppm PCB. Other state requirements included one-time application only, a recording of amount and location of land use, and the amount of heavy metals, PCB's and cadmium with respect to each parcel of land. This information was to be made a permanent part of the land record.

Based on the FNSI, a Region V grant for \$9.1 million was awarded to the City of Indianapolis for the sludge removal and land application operation. Shortly after the City's contractors began work, they discovered that they would be unable to remove large quantities of sludge because of its high solids content. The contractor claimed that this sludge was unpumpable and therefore would not be suitable for land application "because of being intermixed with soil."

At approximately the same time that sludge removal began (September, 1977), the owner of a burning landfill located adjacent to the Belmont site approached the Indiana State Board of Health (ISBH) with a plan to improve the "unsightly" landfill. This plan proposed placing the lagoon sludge from the Belmont site in Lane Landfill to smother the underground fire and contour the general site. The owner of Lane Landfill, Mr. Lane, explained to the ISBH that the City's contractor had substantial quantities of a "clay-type" material ideally suited for such landfill use.

Upon learning of Mr. Lane's plan, the City's consultant contacted the project director for the City, expressing concern that the ISBH Solid Waste Management Section was not being accurately informed because material involved was sludge, not a clay-type material. The project director for the City then contacted the ISBH Solid Waste Management Section indicating the City's support for the Lane proposal and defined the material to be landfilled as sludge and not a clay-type soil.

In December, 1977, the ISBH Solid Waste Management Section approved the deposit of sludge from the lagoons in Lane Landfill. This approval was apparently made unilaterally by the ISBH Solid Waste Management Section. There was no input from our Agency or from the Grant Management Section of ISBH. Subsequent approvals for greater quantities of sludge to be landfilled were given by the ISBH Solid Waste Management Section to Lane Landfill. The need for these subsequent approvals stimulated dialogue between the ISBH Solid Waste Management Section and the Grant Management Section. The

State then realized that the sludge they had approved for landfill should have been part of the land application program previously approved by Region V. In a letter dated January 29, 1979, the ISBH advised the City that all prior approvals were intended for the unpumpable lagoon bottom material only. It was noted that as much as 80% of the lagoon sludge was being placed in Lane Landfill. At that point, ISBH halted further sludge landfilling activities.

Summary

Region V Water Division was eventually advised by ISBH of the sludge handling improprieties. Our FNSI clearly indicated that all the sludge removed from the lagoons was to be land-applied. Because of operational difficulties, large quantities of this sludge were placed in Lane Landfill without explicit EPA approval. This action was taken outside of the NEPA process and resulted in potentially hazardous quantities of material being landfilled in a flood plain. Our FNSI stated that the funding action it addressed would not involve any environmentally sensitive areas. During a meeting on May 11, 1979 with staff of ISBH, Indianapolis, and the City's consultants, we indicated our concern for adverse effects that may develop due to the amount of sludge landfilled. We also indicated that the City would need to evaluate the environmental consequences of the landfill activity. The City responded with an Environmental Assessment discussing the landfilling action and a proposal for sampling and analysis of the sludge deposited at Lane Landfill.

Information Needed

In order for us to develop a cohesive approach and establish the options available for dealing with this situation, we will need to develop the following information:

1. A determination from the Surveillance and Analysis Division of the technical accuracy of the leachate study proposal from Indianapolis. This study is ostensibly designed to show the adverse environmental impacts to ground and surface water resulting from deposition of sludge in the Lane Landfill. Mr. David Lamm, Chief of the ISBH Solid Waste Management Section has indicated that this leachate study is acceptable to his agency. Mr. Lamm further indicated that in his opinion, the leachate study was the only way of determining potential environmental problems associated with sludge.
2. If the leachate proposal is analytically valid, we will need from Air and Hazardous Materials Division, and Water Division's Water Supply Branch, an acceptable PCB leachate concentration. Also, we will need from Air and Hazardous

Materials Division any responsibilities the ISBH may have under the Resource Conservation and Recovery Act of 1976 in approving such material for deposition in a landfill that is wholly located in a flood plain.

3. We will need from Enforcement Division a determination of the enforcement actions available to us in light of Indianapolis' EPA grantee relationship and their unauthorized disposal of sludge in potentially hazardous quantities. Please include possible approaches under each piece of relevant legislation, e.g., Section 7003 RCRA, Section 13 Toxic Substances Control Act, etc.
4. Water Division will need to contact the appropriate office of the Corps of Engineers to determine if the Lane Landfill owner was subject to the provisions of Section 404 of the Clean Water Act. If the owner was subject to Section 404 and did not apply for a permit, we will need from Enforcement Division a determination of enforcement actions available to us and the level of State responsibility in this area.

I would appreciate a member of your staff attending a ~~meeting~~
~~August 2, 2:00 PM~~, in the Water Division conference room, in
order to discuss this matter. ~~I would also appreciate receiving~~
~~your written responses to our requests for information at that~~
~~time.~~

If you need further information or have any questions, please contact Greg Vanderlaan at 3-2314.

Attachments:

leachate proposal
site map

cc: Joseph F. Harrison, Chief
Water Supply Branch

Eugene F. Wojcik, Chief
EIS Section

Thomas F. Harrison
Regional Counsel